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09/400,974 09/22/99 SATO

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EXAMINER

I, E, I

ART UNIT

PAPER NUMBER

2684

DATE MAILED:

02/27/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/400,974

Applicant(s)

Sato et al

Examiner

Lana Le

Group Art Unit

2684



☒ Responsive to communication(s) filed on Sep 22, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-17 is/are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-17 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☒ The proposed drawing correction, filed on Sep 22, 1999 is ☒ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. Claims 1 and 15, line 4 stated "... and a receiver receiving a plurality of the signal waves form a plurality of propagation paths of a line of sight propagation path to the transmitter and the at least one propagation path" is unclear. Proper correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Freeburg (US 5,355,520).

Regarding claim 1, Freeburg discloses a millimeter band signal transmitting/receiving system, comprising a transmitter transmitting a signal wave with a millimeter band a propagation path forming portion forming at least one propagation path for propagation of the signal wave, and a receiver receiving a plurality of the signal waves from a plurality of propagation paths of a line of sight propagation path to the transmitter and the at least one propagation path (col 3, lines 15-55).

Regarding claim 2, Freeburg discloses the millimeter band signal transmitting/receiving system according to claim 1, wherein the propagation path forming portion includes a reflector arranged to reflect the signal wave transmitted from the transmitter and direct the reflected signal wave to the receiver (col 3, lines 35-55).

Regarding claim 3, Freeburg discloses the millimeter band signal transmitting/receiving system according to claim 2, wherein the reflector is arranged substantially almost in parallel to an imaginary line between the transmitter and the receiver (Fig 2, col 2, lines 49-66).

Regarding claim 4, Freeburg discloses the millimeter band signal transmitting/receiving system according to claim 2, wherein the reflector has a thin film including aluminum (col 3, lines 23-25, col 6 lines 1-24).

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Regarding claim 5, Freeburg discloses the millimeter band signal transmitting/receiving system according to claim 2, the reflector has its surface covered by an insulating material (col 3, lines 23-25).

Regarding claim 6, Freeburg discloses the millimeter band signal transmitting/receiving system according to claim 2, wherein the reflector has its surface covered by a transparent insulating material (col 6, lines 14-24).

Regarding claim 7, Freeburg discloses the millimeter band signal transmitting/receiving system according to claim 2, wherein a plurality of the reflectors 22 (fig. 1) are arranged to form the plurality of propagation paths for propagating the signal waves to the receiver (col 2, lines 30-35).

*****Regarding claim 8, Freeburg discloses the millimeter band signal transmitting/receiving system according to claim 1, wherein the receiver always simultaneously receives the plurality of signal waves from the plurality of propagation paths in a normal state (col 5, lines 9-20).

Regarding claim 9, Freeburg discloses the millimeter band signal transmitting/receiving system according to claim 1, wherein the receiver and the transmitter are provided inside a house, the propagation path is a structural component defining an internal space of the house and reflecting a signal wave transmitted from the transmitter, and the transmitter is spaced by a prescribed distance from the structural component defining the internal space of the house for

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transmitting the signal wave with the millimeter band at a transmission angle of at least a prescribed value (col 3, lines 15-55).

Regarding claim 10, Freeburg discloses the millimeter band signal transmitting/receiving system according to claim 9, wherein each of the prescribed distance and the transmission angle of at least the prescribed value is determined depending on a region for propagation of the plurality of signal waves and a positional relation between the transmitter and the receiver (col 3, lines 40-55).

Regarding claim 11, Freeburg discloses the millimeter band signal transmitting/receiving system, comprising a plurality of transmitters for a millimeter band and a receiver arranged to simultaneously receive a plurality of signal waves output from the plurality of transmitters, the plurality of signal waves transmitted from the plurality of transmitters having a same frequency (col 2, lines 24-29).

Regarding claim 12, Freeburg discloses the millimeter band signal transmitting/receiving system according to claim 11, it is inherent in Freeburg's art wherein each of the plurality of transmitters includes a local oscillator oscillating at a prescribed local oscillator frequency for generating the signal wave at the same frequency (col 1, lines 9-12).

Regarding claim 13, Freeburg discloses the millimeter band signal transmitting/receiving system according to claim 11, it is inherent in Freeburg's art wherein the local oscillators are in synchronization with each other.

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Regarding claim 15, Freeburg discloses a house provided with a millimeter band signal transmitting/receiving system, comprising a structural component defining an internal space and a millimeter band signal transmitting/receiving system, wherein the millimeter band signal transmitting/receiving system includes a transmitter transmitting a signal wave with a millimeter band a propagation path forming portion arranged in the structural component for forming at least one propagation path for propagation of the signal, and a receiver simultaneously receiving a plurality of signal waves through a plurality of propagation paths of a line of sight propagation path to the transmitter and the at least one propagation path (col 3, lines 15-55 and col 5, lines 9-20).

Regarding claim 16, Freeburg discloses a house provided with a millimeter band signal transmitting/receiving system according to claim 15, wherein the propagation path forming portion has a reflector reflecting an output from the transmitter and the reflector is arranged on a surface of the component (col 3, lines 35-55).

Regarding claim 17, Freeburg discloses a house provided with a millimeter band signal transmitting/receiving system according to claim 15, wherein the propagation path forming portion has a reflector 18 reflecting an output from the transmitter and the reflector is arranged inside the component (col 2, lines 30-35).

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6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeburg (US 5,355,520) in view of Freeburg (US 5,095,535).

Regarding claim 8 and 14, Freeburg (US 5,355,520) didn't specifically disclose the millimeter band signal transmitting/receiving system according to claim 11, wherein the receiver always simultaneously receives the plurality of signal waves in a normal state. Freeburg (US 5,095,535) specifically discloses the millimeter band signal transmitting/receiving system according to claim 11, wherein the receiver always simultaneously receives the plurality of signal waves in a normal state (col 3, lines 35-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the multipath of Freeburg in order to have a lot of transmission paths without multipath interference.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Keskitalo et al (US 6,128,486), Reception Method and Base Stations Receiver.

-Takahashi (US 5,689,812), Radio Propagation Simulation Method.

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-Tekinay (US 6,175,811B1), Method for Frequency Environment Modeling and Characterization.

8. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 308-6306 (for formal communications intended for entry)

or:

(703) 308-6296 (for informal or draft communications, please label

“PROPOSED” or “DRAFT”

Hand-delivered responses should be brought to the Crystal Park II, 2021 Crystal Drive, Arlington VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or communications from the examiner should be directed to Lana Le whose telephone number is (703) 308-5836 and to the supervisory patent examiner Daniel Hunter whose telephone number is (703) 308-6732.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Lana Le

February 06, 2001


DANIEL HUNTER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

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